



HL7 Conformance Statement

report⁴² Version 3.3

Reporting Application for Cardiovascular MR and CT

2017-02-01

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1 CONFORMANCE STATEMENT OVERVIEW

report⁴² is a vendor-independent workstation solution for comprehensive reporting of Cardiovascular MR and CT cases. It is designed to be used in clinical settings as well as for experimental and clinical research.

report⁴² supports HL7 v2.x ORM (received) and ORU (sent) message, using Mirth Connect as a proxy server to adapt and transform HL7 messages as they are exchanged with an upstream HIS, RIS or HL7 Engine.

2 TABLE OF CONTENTS

1	CONFORMANCE STATEMENT OVERVIEW	3
2	TABLE OF CONTENTS.....	4
3	INTRODUCTION.....	5
3.1	Revision History.....	5
3.2	Audience.....	5
3.3	Remarks.....	5
3.4	Use Case Model.....	6
3.5	Dynamic Interaction Model.....	6
3.7	Dynamic Definitions.....	7
3.7.1	ORM (Event O01).....	7
3.7.2	ORU (Event R01).....	7
3.8	Static Definitions – Message Level.....	7
3.8.1	ORM^O01.....	7
3.8.2	ORU^R01.....	7
3.9	Static Definitions – Segment Level.....	8
3.9.1	MSH.....	8
3.9.2	PID.....	9
3.9.3	PV1.....	9
3.9.4	PV2.....	9
3.9.5	ORC.....	10
3.9.6	OBR.....	11
3.9.7	OBX.....	13
3.9.8	OBX-3 Observation Identifiers for Discrete Data.....	15

3 INTRODUCTION

This HL7 Conformance Statement specifies the behavior and functionality of the report⁴² system, with regard to supported HL7 Messages and Message Segments. report⁴² is an intranet web application for comprehensive evaluation and reporting of Cardiovascular MR and CT data.

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3.1 Revision History

Document Version	Date of Issue	Author	Description
Version report ⁴² 3.0.4	2015-10-06	Glen van de Mosselaer	Initial release of this document
Version report ⁴² 3.1.1	2016-02-22	Glen van de Mosselaer	Revision for version 3.1.x functionality
Version report ⁴² 3.2.0	2016-08-09	Glen van de Mosselaer	Revision for version 3.2.x functionality
Version report ⁴² 3.3.0	2017-02-01	Glen van de Mosselaer	Revision for version 3.3.x functionality

3.2 Audience

This document is written for the people that need to understand how report⁴² will integrate into their healthcare facility. This includes both those responsible for overall workflow network policy and architecture, as well as integrators who need to have a detailed understanding of the HL7 features of the product. Integrators are expected to fully understand all the HL7 terminology, how the tables in this document relate to the product's functionality, and how that functionality integrates with other devices that support compatible HL7 features.

3.3 Remarks

The scope of this HL7 Conformance Statement is to facilitate integration between report⁴² and other HL7 products. The Conformance Statement should be read and understood in conjunction with the HL7 v2.x Standard. HL7 by itself does not guarantee interoperability. The Conformance Statement does, however, facilitate a first-level comparison for interoperability between different applications supporting compatible HL7 functionality.

This Conformance Statement is not supposed to replace validation with other HL7 equipment to ensure proper exchange of intended information. In fact, the user should be aware of the following important issues:

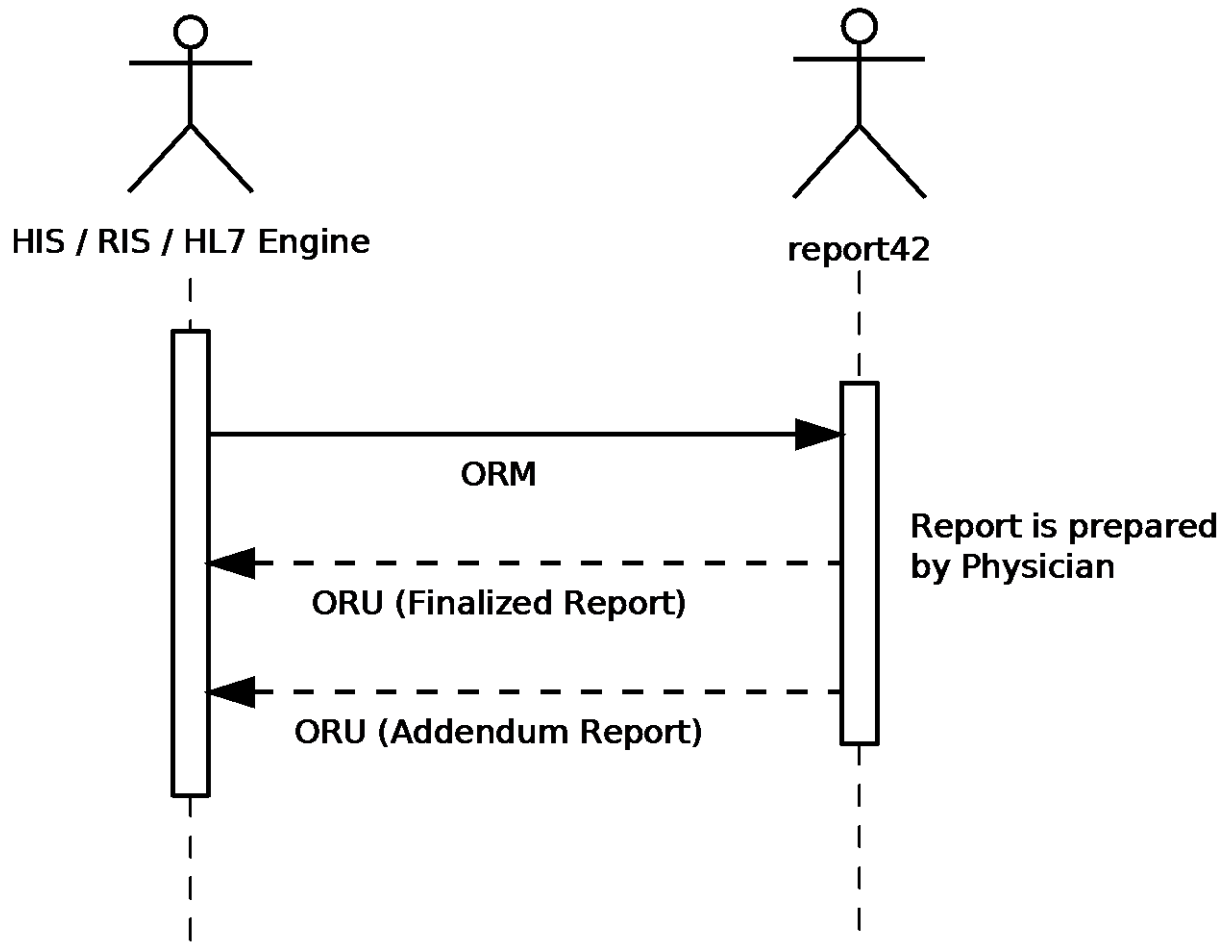
- The comparison of different Conformance Statements is just the first step towards assessing interconnectivity and interoperability between the product and other HL7 conformant equipment.
- Test procedures should be defined and executed to validate the required level of interoperability with specific compatible HL7 equipment, as established by the healthcare facility.

3.4 Use Case Model

report⁴² can receive ORM (Order Message) from a HIS, RIS, or general HL7 Engine indicating that a patient was scheduled for an MR or CT Scan and the order is complete. These messages should be received prior to actual image or measurement data being transferred from cvi⁴² or other analysis software.

When a report is changed to a Finalized or Addendum state, an ORU (Observation Message) is returned to an upstream HIS, RIS, or HL7 Engine, presumably but not necessarily the same system that originated the transaction with an ORM.

3.5 Dynamic Interaction Model



ORM messages originate with a HIS, RIS or HL7 Engine upstream from the report⁴² server. Received ORM messages are stored in report⁴²'s database and matched later to incoming DICOM-sourced data.

ORU messages are later produced when a physician creates a Finalized or Addendum report and are returned to an HL7 node, presumably the one that created the ORM message. Typically report data will be included either by embedding text or encoded data, or by including reference pointers to report data at a local or network location.

3.7 Dynamic Definitions

3.7.1 ORM (Event O01)

MSH PID PV1 [PV2] ORC [OBR] [{ OBX }]

3.7.2 ORU (Event R01)

MSH PID PV1 [PV2] ORC OBR [{ OBX }]

3.8 Static Definitions – Message Level

3.8.1 ORM^O01

Segment	ORM Message	Usage	Cardinality	Comment
MSH	Message Header	R	[1..1]	
PID	Patient Identification	R	[1..1]	
PV1	Patient Visit	RE	[1..1]	
[PV2]	Patient Visit – Additional	O	[0..1]	
ORC	Common Order	R	[1..1]	Required in order to filter messages by Order Status
[OBR]	Observation	O	[0..1]	
[{ OBX }]	Observation/Result	O	[0..*]	

3.8.2 ORU^R01

Segment	ORM Message	Usage	Cardinality	Comment
MSH	Message Header	R	[1..1]	
PID	Patient Identification	R	[1..1]	
PV1	Patient Visit	RE	[1..1]	
[PV2]	Patient Visit – Additional	O	[0..1]	If present in ORM, will be returned in ORU
ORC	Common Order	R	[1..1]	
OBR	Observation	O	[1..1]	
[{ OBX }]	Observation/Result	O	[0..*]	OBX present in ORM will not be present in ORU. Only specified report data will be returned in OBX segment(s)

3.9 Static Definitions – Segment Level

3.9.1 MSH

Sequence	Name	Usage	Cardinality	Comment
1	Field Separator	R	[1..1]	
2	Encoding Characters	R	[1..1]	
3	Sending Application	R	[1..1]	Sender in ORM becomes Receiver in ORU
4	Sending Facility	R	[1..1]	Sender in ORM becomes Receiver in ORU
5	Receiving Application	R	[0..1]	Receiver in ORM becomes Sender in ORU
6	Receiving Facility	R	[0..1]	Receiver in ORM becomes Sender in ORU
7	Date/Time Of Message	O	[0..1]	
8	Security	O	[0..1]	
9	Message Type	R	[1..1]	
10	Message Control ID	R	[1..1]	
11	Processing ID	R	[1..1]	
12	Version ID	R	[1..1]	
13	Sequence Number	O	[0..1]	
14	Continuation Pointer	O	[0..1]	
15	Accept Acknowledgement Type	O	[0..1]	
16	Application Acknowledgement Type	O	[0..1]	
17	Country Code	O	[0..1]	
18	Character Set	O	[0..*]	
19	Principal Language Of Message	O	[0..1]	
20	Alternate Character Set Handling Scheme	O	[0..1]	

3.9.2 PID

Sequence	Name	Usage	Cardinality	Comment
1	Set ID – PID	O	[0..1]	
2	Patient ID	B	[0..1]	
3	Patient Identifier List	R	[1..*]	
4	Alternate Patient ID – PID	B	[1..*]	
5	Patient's Name	R	[1..*]	
6	Mother's Maiden Name	O	[0..*]	
7	Date/Time of Birth	O	[0..1]	
8	Sex	O	[0..1]	
9	Patient Alias	O	[0..*]	
10	Race	O	[0..*]	
11	Patient Address	O	[0..*]	
12	Country Code	B	[0..1]	
13	Phone Number – Home	O	[0..*]	
14	Phone Number – Business	O	[0..*]	
15	Primary Language	O	[0..1]	
16	Marital Status	O	[0..1]	
17	Religion	O	[0..1]	
18	Patient Account Number	O	[0..1]	
19	SSN Number – Patient	B	[0..1]	
20	Driver's License Number – Patient	O	[0..1]	
21	Mother's Identifier	O	[0..*]	
22	Ethnic Group	O	[0..*]	
23	Birth Place	O	[0..1]	
24	Multiple Birth Indicator	O	[0..1]	
25	Birth Order	O	[0..1]	
26	Citizenship	O	[0..*]	
27	Veterans Military Status	O	[0..1]	
28	Nationality	O	[0..1]	
29	Patient Death Date and Time	O	[0..1]	
30	Patient Death Indicator	O	[0..1]	

3.9.3 PV1

PV1 segments are ignored by report⁴², however the segment will be stored as-is from an ORM and returned in the ORU.

3.9.4 PV2

PV2 segments are ignored by report⁴², however the segment will be stored as-is from an ORM and returned in the ORU.

3.9.5 ORC

Sequence	Name	Usage	Cardinality	Comment
1	Order Control	R	[1..1]	
2	Placer Order Number	O	[0..1]	
3	Filler Order Number	O	[0..1]	
4	Placer Group Number	O	[0..1]	
5	Order Status	O	[0..1]	report ⁴² normally only passes ORM messages with a status of CM, but this is configurable.
6	Response Flag	O	[0..1]	
7	Quantity/Timing	O	[0..1]	
8	Parent	O	[0..1]	
9	Date/Time of Transaction	O	[0..1]	
10	Entered By	O	[0..*]	
11	Verified By	O	[0..*]	
12	Ordering Provider	O	[0..*]	
13	Enterer's Location	O	[0..1]	
14	Call Back Phone Number	O	[0..2]	
15	Order Effective Date/Time	O	[0..1]	
16	Order Control Code Reason	O	[0..1]	
17	Entering Organization	O	[0..1]	
18	Entering Device	O	[0..1]	
19	Action By	O	[0..*]	
20	Advanced Beneficiary Notice Code	O	[0..1]	
21	Ordering Facility Name	O	[0..*]	
22	Ordering Facility Address	O	[0..*]	
23	Ordering Facility Phone Number	O	[0..*]	
24	Ordering Provider Address	O	[0..*]	

3.9.6 OBR

Sequence	Name	Usage	Cardinality	Comment
1	Set ID – OBR	O	[0..1]	
2	Placer Order Number	O	[0..1]	
3	Filler Order Number	O	[0..1]	
4	Universal Service ID	R	[1..1]	
5	Priority	O	[0..1]	
6	Requested Date/Time	O	[0..1]	
7	Observation Date/Time	O	[0..1]	
8	Observation End Date/Time	O	[0..1]	
9	Collection Volume	O	[0..1]	
10	Collector Identifier	O	[0..*]	
11	Specimen Action Code	O	[0..1]	
12	Danger Code	O	[0..1]	
13	Relevant Clinical Info.	O	[0..1]	
14	Specimen Received Date/Time	O	[0..1]	
15	Specimen Source	O	[0..1]	
16	Ordering Provider	O	[0..*]	
17	Order Callback Phone Number	O	[0..2]	
18	Placer Field 1	O	[0..1]	
19	Placer Field 2	O	[0..1]	
20	Filler Field 1	O	[0..1]	For ORU will contain the DICOM StudyInstanceUID
21	Filler Field 2	O	[0..1]	
22	Results Rpt/Status Chng – Date/Time	O	[0..1]	
23	Charge to Practice	O	[0..1]	
24	Diagnostic Serv Sect ID	O	[0..1]	
25	Result Status	O	[0..1]	In ORU message may be 'F' for Finalized or 'C' for Correction (Addendum) reports
26	Parent Status	O	[0..1]	
27	Quantity/Timing	O	[0..*]	
28	Result Copies To	O	[0..5]	
29	Parent	O	[0..1]	
30	Transportation Mode	O	[0..1]	
31	Reason for Study	O	[0..*]	
32	Principal Result Interpreter	O	[0..1]	In ORU message set to the reporting physician
33	Assistant Result Interpreter	O	[0..*]	
34	Technician	O	[0..*]	
35	Transcriptionist	O	[0..*]	
36	Scheduled Date/Time	O	[0..1]	
37	Number of Sample Containers	O	[0..1]	
38	Transport Logistics of Collected Sample	O	[0..*]	
39	Collector's Comment	O	[0..*]	
40	Transport Arrangement Responsibility	O	[0..1]	
41	Transport Arranged	O	[0..1]	
42	Escort Required	O	[0..1]	
43	Planned Patient Transport Comment	O	[0..*]	

44	Procedure Code	O	[0..1]	
45	Procedure Code Modifier	O	[0..*]	

3.9.7 OBX

Sequence	Name	Usage	Cardinality	Comment
1	Set ID – OBX	O	[0..1]	
2	Value Type	O	[0..1]	<p>ORU messages use TX for Text and HTML report data, ED for Base64-encoded PDF data, and RP for references to report files stored on a filesystem or a DICOM SeriesInstanceUID for reports uploaded to PACS.</p> <p>For Discrete Data, this may be TX for blocks of Text data, ST for a String (short alphanumeric text), or NM for Numeric data.</p>
3	Observation Identifier	R	[1..1]	<p>For embedded formatted reports or formatted report reference pointers, subfield 1 contains a LOINC code ID, subfield 2 contains a LOINC Long Common Name, and subfield 3 contains LN signifying that this observation is from a Heart CT (58744-4^Heart CT^LN) or Heart MRI (24748-6^Heart MRI^LN).</p> <p>For discrete data points, subfield 1 contains a short data identifier, subfield 2 contains more descriptive identifier text, and subfield 3 contains the name of the report⁴² coding system, 99R42. For discrete data points with relevant LOINC codes, the LOINC code will be represented in fields 4, 5, and 6. Refer to the table of OBX-3 Observation Identifiers for Discrete Data for a complete list of discrete values and codes.</p>
4	Observation Sub-ID	O	[0..1]	For Discrete Data, may indicate that a data point belongs to a particular region of interest or slices (OBX-2 Value Types ST or NM), or may indicate individual segments of a Text value (OBX-2 Value Type TX).
5	Observation Value	O	[0..*]	For embedded Text or HTML, there are no subfields and OBX-5 contains the embedded content.

				<p>For Embedded PDF, subfield 1 contains "Adobe Acrobat", subfield 2 contains "PDF", subfield 4 contains "Base64" indicating that this data is encapsulated using Base64 encoding, and subfield 5 contains the actual data.</p> <p>For Reference Pointers, subfield 1 contains the path or URL to the document, subfield 3 contains the name of the data type ('text' for text or HTML, 'application' for PDF, 'image' for DICOM) and subfield 4 contains the MIME type ('text/plain', 'text/html', 'application/pdf', or 'image/dicom').</p> <p>For Discrete Data, the field will contain the actual value of the data point.</p>
6	Units	O	[0..1]	For Discrete Data, will contain the units for the data, if any.
7	References Range	O	[0..1]	For Discrete Data, will contain the reference (normal value) range for the data, if any.
8	Abnormal Flags	O	[0..5]	For Discrete Data, will contain a flag indicating if the data is in-range (N), higher than the reference range (H) or lower than the reference range (L), if a reference range is defined.
9	Probability	O	[0..1]	
10	Nature of Abnormal Test	O	[0..*]	
11	Observation Result Status	R	[1..1]	In ORU message may be 'F' for Finalized or 'C' for Correction (Addendum) reports
12	Date Last Obs Normal Values	O	[0..1]	
13	User Defined Access Checks	O	[0..1]	
14	Date/Time of the Observation	O	[0..1]	
15	Producer's ID	O	[0..1]	
16	Responsible Observer	O	[0..*]	
17	Observation Method	O	[0..*]	

3.9.8 OBX-3 Observation Identifiers for Discrete Data

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
Patient / Study					
SiteOfServiceLaboratory	Site Of Service Laboratory Name	99R42			
SiteOfServiceLocation	Site Of Service Location	99R42			
SiteOfServiceTypeOfFacility	Site Of Service Type Of Facility	99R42			
SiteOfServiceAddress	Site Of Service Address	99R42			
SiteOfServicePhone	Site Of Service Phone	99R42			
SiteOfServiceAccreditationEntity	Site Of Service Accreditation Entity	99R42			
SiteOfServiceAccreditationStatus	Site Of Service Accreditation Status	99R42			
PHN	Patient Health Number	99R42			
StudyInstanceUID	DICOM StudyInstanceUID	99R42			
AccessionNumber	DICOM Accession Number	99R42			
PriorNames	Patient Prior Names	99R42			
Ethnicity	Patient Ethnicity	99R42			
InsuranceInformation	Patient Insurance Information	99R42			
Status	Report Status	99R42			
MRN	Medical Record Number	99R42			
CustomPatientID	DICOM Custom Patient ID	99R42			
Gender	Patient Gender	99R42			
Birthdate	Patient Birthdate	99R42			
StudyDate	DICOM Study Date	99R42			
PatientAge	Patient Age	99R42			
StudyName	DICOM Study Name	99R42			
ReferringPhysician	DICOM Referring Physician	99R42			
PhysicianNationalIdentifier	Referring Physician National Identifier	99R42			
BloodPressure	Blood Pressure	99R42			
HeartRate	Heart Rate	99R42			
Height	Height	99R42			
Weight	Weight	99R42			
BMI	Body Mass Index	99R42			
BSA	Body Surface Area	99R42			
BSAMethod	Body Surface Area Formula	99R42			
ImageQuality	Image Quality	99R42			
ContrastAgentAdministrationMethod	Contrast Agent Administration Method	99R42			
ContrastAgent	Contrast Agent	99R42			
ContrastAgentDose	Contrast Agent Dose	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
ScannerManufacturer	Scanner Manufacturer	99R42			
ScannerModel	Scanner Model	99R42			
ScannerSerialNumber	Scanner Serial Number	99R42			
ScannerSoftwarePlatform	Scanner Software Platform	99R42			
InducingStressMethod	Inducing Stress Method	99R42			
StressProtocol	Stress Protocol	99R42			
MagnetType	Magnet Type	99R42			
FieldStrength	Field Strength	99R42			
ScannerType	Scanner Type	99R42			
Gating	Gating	99R42			
mAs	mAs	99R42			
kVp	kVp	99R42			
RadiationReductionStrategy	Radiation Reduction Strategy	99R42			
EstimatedRadiationDose	Estimated Radiation Dose	99R42			
PatientHistory	Patient History	99R42			
ClinicalSituations	Clinical Situations	99R42			
StudyIndications	Study Indications	99R42			
RiskFactors	Risk Factors	99R42			
Medications	Medications	99R42			
Allergies	Allergies	99R42			
Staff	Staff	99R42			
Modality	Modality	99R42			
ProtocolName	Protocol Name	99R42			
IndicationName	Indication Name	99R42			
Techniques	Techniques	99R42			
LV Global					
LV_EDV	LV ED volume	99R42	2527846	LV ED vol Imaging	LN
LV_EDV_ZValue	LV ED volume Z-Value	99R42			
LV_EDVI	LV ED volume / height	99R42			
LV_EDV_AI	LV ED volume / BSA	99R42			
LV_ESV	LV ES volume	99R42	2528757	LV ES vol Imaging	LN
LV_ESV_ZValue	LV ES volume Z-Value	99R42			
LV_ESVI	LV ES volume / Height	99R42			
LV_ESV_AI	LV ES volume / BSA	99R42			
LV_SV	LV SV	99R42	2510100	LV SV MRI	LN
LV_SV_ZValue	LV SV Z-Value	99R42			
LV_SVI	LV SV / height	99R42			
LV_SV_AI	LV SV / BSA	99R42	2517344	LV SVI MRI	LN

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
LV_EF	LV EF	99R42	2524224	LV EF MRI	LN
LV_EF_ZValue	LV EF Z-Value	99R42			
LV_CardiacOutput	LV Cardiac Output	99R42	2497711	LV Output MRI	LN
LV_CardiacOutput_ZValue	LV Cardiac Output Z-Value	99R42			
LV_CardiacIndex	LV Cardiac Index	99R42	2502856	LV Cardiac index MRI	LN
LV_Mass	LV Mass	99R42			
LV_Mass_ZValue	LV Mass Z-Value	99R42			
LV_MI	LV Mass / height	99R42			
LV_Mass_AI	LV Mass / BSA	99R42			
LV_ESWS	LV ES Wall Stress	99R42			
LV_EDAV	LV ED Atrial volume	99R42			
LV_EDAV_Diameter	LV ED Atrial volume Diameter	99R42			
LV_ESAV	LV ES Atrial volume	99R42			
LV_ESAV_Diameter	LV ES Atrial volume Diameter	99R42			
LVGlobalMass_Method	LV Global Mass Method	99R42			
LV Regional Tissue Characterization					
LVRegTissueChar_Endocardium_Segment_1	LV Regional Tissue Characterization: Endocardium Segment 1	99R42			
LVRegTissueChar_Epicardium_Segment_1	LV Regional Tissue Characterization: Epicardium Segment 1	99R42			
LVRegTissueChar_Endocardium_Segment_2	LV Regional Tissue Characterization: Endocardium Segment 2	99R42			
LVRegTissueChar_Epicardium_Segment_2	LV Regional Tissue Characterization: Epicardium Segment 2	99R42			
LVRegTissueChar_Endocardium_Segment_3	LV Regional Tissue Characterization: Endocardium Segment 3	99R42			
LVRegTissueChar_Epicardium_Segment_3	LV Regional Tissue Characterization: Epicardium Segment 3	99R42			
LVRegTissueChar_Endocardium_Segment_4	LV Regional Tissue Characterization: Endocardium Segment 4	99R42			
LVRegTissueChar_Epicardium_Segment_4	LV Regional Tissue Characterization: Epicardium Segment 4	99R42			
LVRegTissueChar_Endocardium_Segment_5	LV Regional Tissue Characterization: Endocardium Segment 5	99R42			
LVRegTissueChar_Epicardium_Segment_5	LV Regional Tissue Characterization: Epicardium Segment 5	99R42			
LVRegTissueChar_Endocardium_Segment_6	LV Regional Tissue Characterization: Endocardium Segment 6	99R42			
LVRegTissueChar_Epicardium_Segment_6	LV Regional Tissue Characterization: Epicardium Segment 6	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
LVRRegTissueChar_Endocardium_Segment_7	LV Regional Tissue Characterization: Endocardium Segment 7	99R42			
LVRRegTissueChar_Epicardium_Segment_7	LV Regional Tissue Characterization: Epicardium Segment 7	99R42			
LVRRegTissueChar_Endocardium_Segment_8	LV Regional Tissue Characterization: Endocardium Segment 8	99R42			
LVRRegTissueChar_Epicardium_Segment_8	LV Regional Tissue Characterization: Epicardium Segment 8	99R42			
LVRRegTissueChar_Endocardium_Segment_9	LV Regional Tissue Characterization: Endocardium Segment 9	99R42			
LVRRegTissueChar_Epicardium_Segment_9	LV Regional Tissue Characterization: Epicardium Segment 9	99R42			
LVRRegTissueChar_Endocardium_Segment_10	LV Regional Tissue Characterization: Endocardium Segment 10	99R42			
LVRRegTissueChar_Epicardium_Segment_10	LV Regional Tissue Characterization: Epicardium Segment 10	99R42			
LVRRegTissueChar_Endocardium_Segment_11	LV Regional Tissue Characterization: Endocardium Segment 11	99R42			
LVRRegTissueChar_Epicardium_Segment_11	LV Regional Tissue Characterization: Epicardium Segment 11	99R42			
LVRRegTissueChar_Endocardium_Segment_12	LV Regional Tissue Characterization: Endocardium Segment 12	99R42			
LVRRegTissueChar_Epicardium_Segment_12	LV Regional Tissue Characterization: Epicardium Segment 12	99R42			
LVRRegTissueChar_Endocardium_Segment_13	LV Regional Tissue Characterization: Endocardium Segment 13	99R42			
LVRRegTissueChar_Epicardium_Segment_13	LV Regional Tissue Characterization: Epicardium Segment 13	99R42			
LVRRegTissueChar_Endocardium_Segment_14	LV Regional Tissue Characterization: Endocardium Segment 14	99R42			
LVRRegTissueChar_Epicardium_Segment_14	LV Regional Tissue Characterization: Epicardium Segment 14	99R42			
LVRRegTissueChar_Endocardium_Segment_15	LV Regional Tissue Characterization: Endocardium Segment 15	99R42			
LVRRegTissueChar_Epicardium_Segment_15	LV Regional Tissue Characterization: Epicardium Segment 15	99R42			
LVRRegTissueChar_Endocardium_Segment_16	LV Regional Tissue Characterization: Endocardium Segment 16	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
LVRegTissueChar_Epicardium_Segment_16	LV Regional Tissue Characterization: Epicardium Segment 16	99R42			
LVRegTissueChar_Epicardium_Segment_17	LV Regional Tissue Characterization: Epicardium Segment 17	99R42			
LVSegFunc_Segment_1	LV Regional Segmental Function: Segment 1	99R42			
LVSegFunc_Segment_2	LV Regional Segmental Function: Segment 2	99R42			
LVSegFunc_Segment_3	LV Regional Segmental Function: Segment 3	99R42			
LVSegFunc_Segment_4	LV Regional Segmental Function: Segment 4	99R42			
LVSegFunc_Segment_5	LV Regional Segmental Function: Segment 5	99R42			
LVSegFunc_Segment_6	LV Regional Segmental Function: Segment 6	99R42			
LVSegFunc_Segment_7	LV Regional Segmental Function: Segment 7	99R42			
LVSegFunc_Segment_8	LV Regional Segmental Function: Segment 8	99R42			
LVSegFunc_Segment_9	LV Regional Segmental Function: Segment 9	99R42			
LVSegFunc_Segment_10	LV Regional Segmental Function: Segment 10	99R42			
LVSegFunc_Segment_11	LV Regional Segmental Function: Segment 11	99R42			
LVSegFunc_Segment_12	LV Regional Segmental Function: Segment 12	99R42			
LVSegFunc_Segment_13	LV Regional Segmental Function: Segment 13	99R42			
LVSegFunc_Segment_14	LV Regional Segmental Function: Segment 14	99R42			
LVSegFunc_Segment_15	LV Regional Segmental Function: Segment 15	99R42			
LVSegFunc_Segment_16	LV Regional Segmental Function: Segment 16	99R42			
LVSegFunc_Segment_17	LV Regional Segmental Function: Segment 17	99R42			
LVSegViability_Segment_1	LV Regional Segmental Viability: Segment 1	99R42			
LVSegViability_Segment_2	LV Regional Segmental Viability: Segment 2	99R42			
LVSegViability_Segment_3	LV Regional Segmental Viability: Segment 3	99R42			
LVSegViability_Segment_4	LV Regional Segmental Viability: Segment 4	99R42			
LVSegViability_Segment_5	LV Regional Segmental Viability: Segment 5	99R42			
LVSegViability_Segment_6	LV Regional Segmental Viability: Segment 6	99R42			
LVSegViability_Segment_7	LV Regional Segmental Viability: Segment 7	99R42			
LVSegViability_Segment_8	LV Regional Segmental Viability: Segment 8	99R42			
LVSegViability_Segment_9	LV Regional Segmental Viability: Segment 9	99R42			
LVSegViability_Segment_10	LV Regional Segmental Viability: Segment 10	99R42			
LVSegViability_Segment_11	LV Regional Segmental Viability: Segment 11	99R42			
LVSegViability_Segment_12	LV Regional Segmental Viability: Segment 12	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
LVSegViability_Segment_13	LV Regional Segmental Viability: Segment 13	99R42			
LVSegViability_Segment_14	LV Regional Segmental Viability: Segment 14	99R42			
LVSegViability_Segment_15	LV Regional Segmental Viability: Segment 15	99R42			
LVSegViability_Segment_16	LV Regional Segmental Viability: Segment 16	99R42			
LVSegViability_Segment_17	LV Regional Segmental Viability: Segment 17	99R42			
RV Global					
RV_EDV	RV ED volume	99R42	2528454	RV ED vol Imaging	LN
RV_EDV_ZValue	RV ED volume Z-Value	99R42			
RV_EDVI	RV ED volume / height	99R42			
RV_EDV_AI	RV ED volume / BSA	99R42			
RV_ESV	RV ES volume	99R42	2529062	RV ES vol Imaging	LN
RV_ESV_ZValue	RV ES volume Z-Value	99R42			
RV_ESVI	RV ES volume / Height	99R42			
RV_ESV_AI	RV ES volume / BSA	99R42			
RV_SV	RV SV	99R42	2513721	RV SV MRI	LN
RV_SV_ZValue	RV SV Z-Value	99R42			
RV_SVI	RV SV / height	99R42			
RV_SV_AI	RV SV / BSA	99R42	2520906	RV SVI MRI	LN
RV_EF	RV EF	99R42	2526931	RV EF MRI	LN
RV_EF_ZValue	RV EF Z-Value	99R42			
RV_CardiacOutput	RV Cardiac Output	99R42			
RV_CardiacOutput_ZValue	RV Cardiac Output Z-Value	99R42			
RV_CardiacIndex	RV Cardiac Index	99R42	2506477	RV Cardiac index MRI	LN
RV_Mass	RV Mass	99R42			
RV_Mass_ZValue	RV Mass Z-Value	99R42			
RV_MI	RV Mass / height	99R42			
RV_Mass_AI	RV Mass / BSA	99R42			
RV_EDAV	RV ED Atrial volume	99R42			
RV_EDAV_Diameter	RV ED Atrial volume Diameter	99R42			
RV_ESAV	RV ES Atrial volume	99R42			
RV_ESAV_Diameter	RV ES Atrial volume Diameter	99R42			
ARVC/D (original)					
SevRVDilatationNormLV	Severe RV Dilatation and Reduced RV-EF Norm LV	99R42			
SevRVDilatationNormLV_LocInRV	SevRVDilatationNormLV Location in RV	99R42			
LocalizedRVaneurysms	Localized RV aneurysms with early diastolic bulge	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
LocalizedRVAneurysms_LocInRV	LocalizedRVAneurysms Location in RV	99R42			
SevSegRVDilatation	Severe segmental RV dilatation	99R42			
SevSegRVDilatation_LocInRV	SevSegRVDilatation Location in RV	99R42			
MildGlobalRVDilatation	Mild global RV dilatation and/or reduced RV-EF norm LV	99R42			
MildGlobalRVDilatation_LocInRV	MildGlobalRVDilatation Location in RV	99R42			
MildSegRVDilatation	Mild segmental RV dilatation	99R42			
MildSegRVDilatation_LocInRV	MildSegRVDilatation Location in RV	99R42			
RegionalRVHypokinesis	Regional RV hypokinesis	99R42			
RegionalRVHypokinesis_LocInRV	RegionalRVHypokinesis Location in RV	99R42			
RVTrabecularHypertrophy	RV trabecular hypertrophy	99R42			
FibroFattyReplacement	Fibro-fatty replacement	99R42			
ARVC/D (revised)					
REV2_RegRVAkinesia	Regional RV akinesia	99R42			
REV2_RegRVDyskinesia	Regional RV dyskinesia	99R42			
REV2_DyssynchRVContraction	Dyssynchronous RV contraction	99R42			
REV2_ModSevRVDilatation	Moderate Or Severe RV Dilatation	99R42			
REV2_MildRVDilatation	Mild RV Dilatation	99R42			
REV2_RVEjecFracMajor	RV ejection fraction <= 40%	99R42			
REV2_RVEjecFracMinor	40% < RV ejection fraction <= 45%	99R42			
REV2_MajorCriteria	ARVC/D Major Criteria	99R42			
REV2_MinorCriteria	ARVC/D Minor Criteria	99R42			
REV2_Microaneurysm	Microaneurysm	99R42			
REV2_SevSegRVDilatation	Severe segmental RV dilatation	99R42			
REV2_MildSegRVDilatation	Mild segmental RV dilatation	99R42			
REV2_AccordionSign	Accordion Sign	99R42			
REV2_FibfatReplacement	Fibro-fatty replacement	99R42			
REV2_TrabHypertrophy	RV trabecular hypertrophy	99R42			
Tissue Characterisation					
T2Ratio	T2 Signal Intensity ratio	99R42			
EarlyEnhancementRatio	Early Gadolinium Enhancement Ratio	99R42			
LateEnhancementMass	Late Gadolinium Enhancement Mass	99R42			
LateEnhLVMassRatio	Late Enhancement / LV Mass	99R42			
GreyzoneVolume	Greyzone Volume	99R42			
SalvagedAreaAtRisk	Salvaged Area At Risk	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
Valves and Flow					
ValveName	Valve Name	99R42			
ValveFunction	Valve Function	99R42			
ValveFlowHeartRate	ValveFlowHeartRate	99R42			
ValveTotalForwardFlow	Valve Total Forward Flow	99R42			
ValveForwardFlow	Valve Forward Flow	99R42			
ValveBackwardFlow	Valve Backward Flow	99R42			
ValvePeakVelocity	Valve Peak Velocity	99R42			
ValveRegurgitantFraction	Valve Regurgitant Fraction	99R42			
ValveOrificeArea	Valve Orifice Area	99R42			
ValveGradient	Valve Gradient	99R42			
COPulmonaryValve	Cardiac Output Pulmonary Valve	99R42			
COAorticValve	Cardiac Output Aortic Valve	99R42			
QPQS_Ratio	QP/QS Ratio	99R42	2499537	Qp/Qs Imaging	LN
Aorta					
AorticDiameter_Root	Aortic Root Diameter	99R42			
AorticDiameter_Ascending	Aortic Ascending Diameter	99R42			
AorticDiameter_Arch	Aortic Arch Diameter	99R42			
AorticDiameter_Descending	Aortic Descending Diameter	99R42			
AorticDiameter_AnnulusArea	Aortic Annulus Area	99R42			
AorticDiameter_SinusArea	Aortic Sinus Area	99R42			
Calcium Scoring					
LM_Volume	LM Ca Score Volume	99R42			
LM_Mass	LM Ca Score Mass	99R42			
LM_Score	LM Ca Score	99R42			
LAD_Volume	LA Ca Score Volume	99R42			
LAD_Mass	LA Ca Score Mass	99R42			
LAD_Score	LA Ca Score	99R42			
CX_Volume	CX Ca Score Volume	99R42			
CX_Mass	CX Ca Score Mass	99R42			
CX_Score	CX Ca Score	99R42			
RCA_Volume	RC Ca Score Volume	99R42			
RCA_Mass	RC Ca Score Mass	99R42			
RCA_Score	RC Ca Score	99R42			
Total_Volume	Total Ca Score Volume	99R42			
Total_Mass	Total Ca Score Mass	99R42			
Total_Score	Total Ca Score	99R42			

Identifier OBX-3.1	Text OBX-3.2	Name of Coding System OBX-3.3	Alternate Identifier OBX-3.4	Alternate Text OBX-3.5	Name of Alternate Coding System OBX.3.6
CaThreshold	CaThreshold	99R42			
CaMassCalibrationFactor	Ca Mass Calibration Factor	99R42			
SliceThickness	Ca Score Slice Thickness	99R42			
SliceDistance	Ca Score Slice Distance	99R42			
AgatstonScoreClassification	Agatston Score Classification	99R42			
T2*					
T2Star_ROI_SliceNum	T2Star ROI Slice Number	99R42			
T2Star_ROI_Name	T2Star ROI Name	99R42			
T2Star_ROI_T2Value	T2Star ROI T2 Value	99R42			
T2Star_ROI_T2Error	T2Star ROI T2 +/- Error	99R42			
T2Star_ROI_RSquare	T2Star ROI RSquare Value	99R42			
T1					
T1_ROI_SliceNum	T1 ROI Slice Number	99R42			
T1_ROI_Series	T1 ROI Series	99R42			
T1_ROI_Name	T1 ROI Name	99R42			
T1_ROI_T1Value	T1 ROI T1 Value	99R42			
T1_ROI_T1Error	T1 ROI T1 +/- Error	99R42			
T1_ROI_RSquare	T1 ROI RSquare Value	99R42			
Custom Measurements					
CustomMeasurementType	Custom Measurement Type	99R42			
CustomMeasurementLabel	Custom Measurement Label	99R42			
CustomMeasurementName	Custom Measurement Name	99R42			
CustomMeasurementValue	Custom Measurement Value	99R42			
CustomMeasurementError	Custom Measurement Error	99R42			
CustomMeasurementZValue	Custom Measurement Z-Value	99R42			
Findings and Summary					
Findings	Report Findings	99R42	11421-5	Phys CVS find	LN
NonNarrativeFindings	Non-Narrative Report Findings	99R42	11421-5	Phys CVS find	LN
Summary	Report Summary	99R42			